NOVEMBER/DECEMBER 2023

**BABC15C/FABC15C/CABC15C —
BIOCHEMISTRY – I**

Time : Three hours   Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. How is sorbitol formed?

2. Why is sucrose a non-reducing sugar?

3. How are amino acids classified based on nutritional needs?

4. What is a zwitter ion?

5. What is denaturation of proteins?

6. How are proteins classified based on shape?

7. What are compound lipids?

8. Define saponification number.

9. What are the unusual bases present in tRNA?

10. What is the difference between a nucleoside and a nucleotide?

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Explain any five properties of fructose.

Or

(b) Give the linear and Haworth's projection formula for α-D glucose and β-D glucose.

12. (a) Briefly discuss about the classification of amino acids based on their charge and give examples for each category.

Or

(b) Explain the reaction of glycine and proline with ninhydrin?

13. (a) What is competitive inhibition? Explain with examples.

Or

(b) Bring out the biological role of enzymes.

14. (a) Write shortly on the biological functions of lipids.

Or

(b) Explain the properties of emulsification and saponification of lipids.

15. (a) Write down the structures of adenine, its nucleosides and nucleotides.

Or

(b) Give any five differences between DNA and RNA.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Outline the classification of carbohydrates with suitable examples.

17. Discuss the classification of amino acids based on their side chain groups.

18. Explain the structure of alpha helix and beta pleated sheets with neat illustrations.

19. Write elaborately on the classification of lipids.

20. Elaborate on the structure, types and functions of RNA.